Operationally Responsive Space

A New and Complementary Business Model

Additional Benefits from Operationally Responsive Space

The new business model for operationally responsive space-based systems not only allows Theater Commanders to leverage space capabilities in ways never before possible, it also enhances our overall national security by:

- Reducing the burden on national systems
- Enhancing the persistence of national capabilities
- Augmenting current force structure requirements
- Enhancing force adaptability
- Providing a responsive reconstitution capability to national assets if required
- Proving test surrogates for the overall space system program

Standards and Modularity

A critical next step to fully implementing the ORS business model is developing the bus standards and modular interfaces.

These standards will:

- Profoundly impact the space industry
- Change the nature of competition
- Serve as a unifying body to focus on modular capabilities
- Reduce satellite development cost and schedule
- Reduce risk

It is the age of the small, the fast, the many.

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"Today's strategic context demands that the DoD undertake actions that are swift, bold, and very specific. Operationally Responsive Space meets that criteria."

–Arthur K. Cebrowski

Office of Force Transformation
Department of Defense

A New and Complementary Business Model for Space

Why a new model:

- Provides flexibility and responsiveness necessary to ensure space superiority well into the future
- Responds to eroding barriers to competitive entry
- Growing need to recapitalize space capabilities
- Serves as a Test Bed for National Security Space
- Enables generational acquisition strategy
- Enhances space professional development

What is ORS:

- Demand driven
- Joint military capability
- Risk tolerant
- Output-oriented metrics
- Increased transaction rates
- Increased learning rates

How:

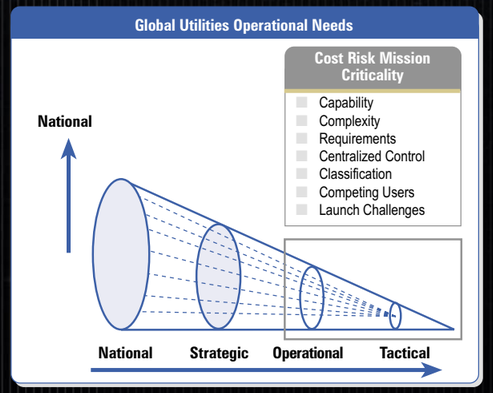
- Small, low-cost satellites
- Standard/modular/scalable satellite buses
- Low-cost launch vehicles
- Robust concept/technology pairing and experimentation

Key Attributes of ORS

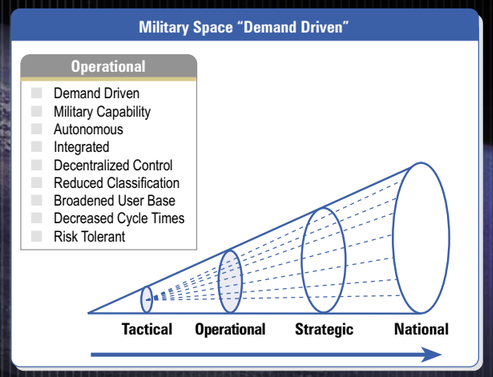
- Demand Driven—Custom built for the Operational Commander
- Joint Military Capability versus National Intelligence Capability
- Autonomous—Does not require large C2 organizations
- Integrated—with Space, Air, and Surface assets
- Decentralized Command and Control
- Reduced Classification—Allowing for broader user base
- Risk Tolerant versus Risk Constrained

An Expanded Portfolio:

Operationalizing National/Strategic Capabilities

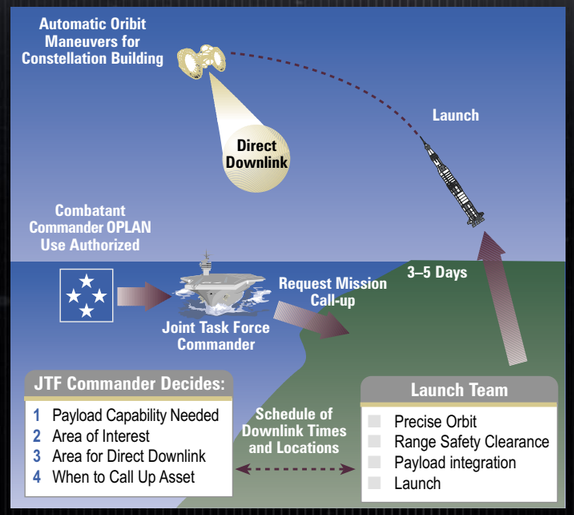


Complementing with Customized Operational Capabilities



We must control the commons, of which space has become one of the most critical.

Test Bed for National Security Space

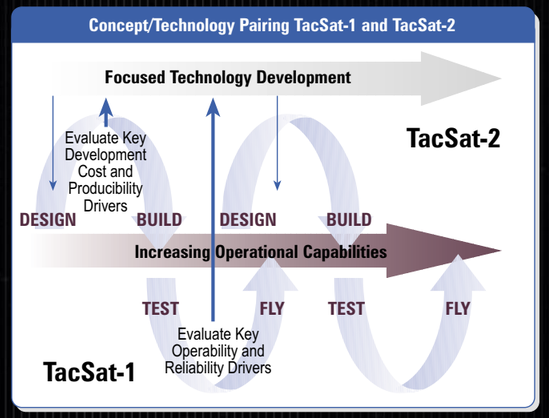


If implemented correctly, ORS will serve as a Test Bed for the larger National Security Space Program.

- Institutional and professional development
- Increased opportunities for test payloads
- Bridging the gap between test and operational capabilities
- Operational process refinements
  - Launch
  - Satellite C2
  - Surveillance

Co-Evolutionary Concept Technology Pairing

Critical to the establishment of an operationally responsive space based system is the pairing of concept with technology for iterative advancement in operational capabilities through continuous experimentation, inextricably linked with regional command efforts, providing the means to look at alternative futures.

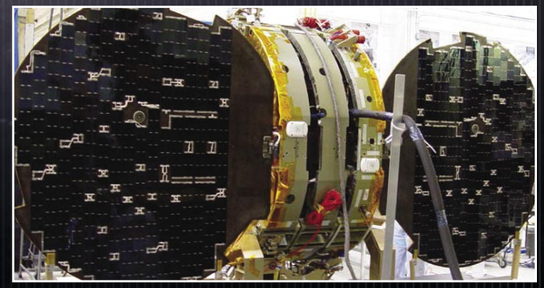


Stimulating disruptive innovation through continuous development and refinement of operational concepts, processes, technologies, and organizations through experimentation.

TacSat-1

Goal:

Design, build, and launch a satellite to address an operational need in 1 year for less than $15M, including launch.



Payload capabilities:

- Machine-to-Machine collaboration between Air and Space assets for geo-location
- Tactical Control of the payload and dissemination of data through the SIPRNET
- Specific Sensor discrimination capability
- Infrared and Visible Imaging